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## ABSTRACT

In the last decade, interest in innovation diffusion and change strategies has grown, along with interest in the relationship between research and technology. In this paper, the author proposes to use his Configurational Theory of Innovation Diffusion (the CLER model) to organize a comprehensive review of theory, research, and technology. The CLER model offers a taxonomy of change configurations that divides change into four categories: individual, group, institutional, and cultural. All areas of social and behavioral sciences are to be utilized in this review, which will focus on the processes of educational change. (Author/DS)

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CONFIGURATIONS OF CHANGE:  
THE FRAMEWORK FOR A RESEARCH REVIEW

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This paper is one of a series of documents reviewing theory, research and technology of innovation diffusion, planned change and development. The review is organized according to the conceptual structure of the Configurational Theory of Innovation Diffusion (ED. 011. 147). This arrangement should enable researchers and practitioners dealing with a specific configuration of change to go directly to a body of literature most related to their interest, for designing social interventions, for advocacy of causes and for planning of change.

CONFIGURATIONS OF CHANGE:  
THE FRAMEWORK FOR A RESEARCH REVIEW

By H.S. Bhola

In this day and age when we talk so matter-of-factly of inventing new futures and of participation in our own social destinies; and when social sciences are referred to glibly as policy sciences; the talk of a technology of advocacy and change should not raise many eyebrows.

Most of us--the educated and the elitized--are in the business of culture-making. Why not face this fact? Why not do culture-making with deliberation, with social and material costs of change counted and accounted for, with commitments clarified, and values brought out in the open. That might even help us do the social intervention job more effectively? Seen from the other end, why not also be enlightened adopters? An understanding of the technology of change should be important not only for the change agent but also for the subjects of change, the clients of particular innovations. An understanding of the rules of the game will certainly make us all less helpless as adopters of change.

Research and Theory Into  
Technology

A distinction might be made between research and theory on the one hand, and technology on the other. In "A History of the Impact of Research on Teaching," the first chapter in the Second Handbook of Research on Teaching,<sup>1</sup> Geraldine Joncich Clifford has drawn conclusions that should strike home to

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<sup>1</sup>Robert M.W. Travers, Editor. (Chicago: Rand McNally and Co., 1973) Pages 1-46.

a student of diffusion and change. Significantly, she calls for a commitment to impact:

Currently the weakest sections of research reports--that on practical implications--must be at least as elaborated as the specifications of research design; better still would be the requirement that implications be tested.<sup>1</sup>

Later in the same section she talks of intervention research:

If the aim of research is improving effectiveness or promoting change, intervention data are probably the only kind worth reporting to teachers, counselors, and administrators. The research reported should be of the kind with which professionals can do something obvious. There is little merit to status research--unless the point is, for example, to clarify differences among groups so as to encourage the teacher to intervene. Most status research now functions as mere window-dressing and obfuscation.<sup>2</sup>

There is obviously the need to undertake research that is pregnant with intervention implications and which would have practical uses for a change agent. The point must be carried a little further: available research and theory must be reviewed and analysed to work out systematically its intervention possibilities; or at the least to speculate about its practical potential. A student of change might then test those speculations without having to start ab initio from research and theory and go through developing strategies to designing tactics, all on his own. In other words, social and behavioral science research must be put through a development phase and converted into a technology of change, and, ultimately, into a "grammar of artifactual action."

### Technology Without Research

Technology thrives on research but all technology does not depend upon, nor follow research. Technology can and often has come first while research

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<sup>1</sup> Ibid., Page 35.

<sup>2</sup> Ibid., Page 36.

has followed. There are examples of that pattern both in the physical and the social and behavioral sciences, the most colorful examples of technology-first-research-later have been the steam engine and the airplane. In the social and behavioral sciences, technology is not as abundant but what is available has not always followed theory and research. For example, in individual and group therapy, technology has not waited for theories of personality to have all been sorted out and for generalizations from research to have been developed and tested. Technology when it is a technician's brainchild is not any less dependable or less significant for it, but the researcher could and should often be the parent of technology.

#### Review of Research and Theory With A Technological Bias

This review of research and theory in social and behavioral sciences has been undertaken to enable diffusionists, change agents, advocates, consultants and developers to generate actual strategies of intervention within social systems of various types and sizes. Our bias is technological, that is, we will be looking especially for techniques, and tactics for use in actual change situations. In our selection of research and theory itself, we will be picking up materials with which change agents could do something obvious. While reviewing research and theory of the basic variety, we will bring it as close as possible to the applied interests of a change maker. We would even go beyond the typically "scientific" and also include promising speculation. We will theorize as we report; we would be playful model-makers in the very organization of our materials. We will do our best to make inert ideas active.

#### Innovation Research and Theory: Ten Years Ago

A review of social and behavioral science literature of possible use to

change makers was prepared ten years ago by this author as part of pre-conference documentation for the Conference on Strategies for Educational Change held in Washington during November 8-10, 1965 under the joint sponsorship of the U.S. Office of Education and The Ohio State University.<sup>1</sup>

Those were the days when the parameters of the field of innovation diffusion were themselves unclear and under discussion. The call for taxonomies and theories was both loud and persistent. The 1965 review organized the material in terms of the following content areas of inquiry about change:

(1) Philosophic Considerations, (2) Content of Innovations, (3) Nature of Inventors, Innovators and Adopters, (4) Process and Tactics of Diffusion, and (5) Measurement and Evaluation. The material presented in each content category was critiqued in terms of the level of refinement. The question was asked: are we still at the stage of developing awareness in a particular aspect of the change process or do we already have access to tested hypotheses and validated theories in that area?

The response to this brief review, over the years, has been more than gratifying. However, two things have happened in the decade preceding. First, the increasing interest in innovation diffusion, induced change, behavioral intervention, modernization and development has generated an impressive and ever-growing body of research, theory and technology that must now be reported. Second, a conceptualization is now available that can lend such reviews of theory, research and technology an organization that, in itself, is generative of insights; and can contribute to the utilization of this knowledge by researchers and practitioners.

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<sup>1</sup> H.S. Bhola, Innovation Research and Theory. Columbus, Ohio: The Ohio State University, 1965. Reissued by the Training Section, AV Center, Indiana University, 1972 from where copies may be obtained.

### The CLER Model as Organizer

We will use the Configurational Theory of Innovation Diffusion (the CLER model)<sup>1</sup> as an organizer for this review of theory, research and technology. The CLER model suggests that Diffusion (Planned Change, or Development) is a function of four variables: Configurational relationships between the innovator and the adopter systems (C); Linkages within and between the innovator and adopter systems involved in the change transaction (L); Environment of the change event (E); and Resources (R) available to the innovator system to promote the planned change and to the adopter system to incorporate that change. Thus  $D = f(C, L, E, R)$ . To increase the probability for a change event to occur, the four variables must be optimized (not necessarily maximized) within a particular situation making use of theory, research and technology available from social and behavioral sciences.

### Configurational Relationships (C)

The CLER model, after identifying these four variables of change, goes on to offer a taxonomy of change configurations within which all possible change events could be classified. It is asserted that social entities are exhausted by the following four: Individual, Group, Institution (or Organization) and Culture (or Subculture). That is, human beings when making change transactions must act either in their individual capacities, or in behalf of groups, or institutions, or cultures. In these change transactions they

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<sup>1</sup>H.S. Bhola, "The Configurational Theory of Innovation Diffusion," Indian Educational Review, Vol. 2, No. 1 (January 1967) Pages 42-72. Also in ERIC, document ED 011 147. A more detailed and updated treatment of the theory is available under the title "Configurations of Change: An Engineering Theory of Innovation, Planned Change and Development," (Mimeo, 1972). Various Paginations.



may act as innovators or they may act as adopters. Thus sixteen different innovator-adopter configurations emerge:

A Taxonomy of Configurational Relationships

	Adopters			
	Individual (I)	Group (G)	Institution (IS)	Culture (CL)
Innovators (I)	I-I	I-G	I-IS	I-CL
(G)	G-I	G-G	G-IS	G-CL
(IS)	IS-I	IS-G	IS-IS	IS-CL
(CL)	CL-I	CL-G	CL-IS	CL-CL

As we will see later, change episodes are not confined to any one particular configurational relationship identified above, but occur within many overlapping configurations. The identification, however, of the first-order change transaction is the first step toward an ordering of the reality confronted by the change maker. It would enable the change maker to define a particular perspective for himself, and develop an appropriate level of response. The organization of the literature review in terms of this taxonomy of primary configurational relationships between innovators and adopters will enable the researcher or practitioner to go directly to a body of research of his interest. It will provide a built-in and useful retrieval system. Similarly, if Linkages seem to be the important variable in a change situation, the researcher or practitioner would go directly to research related to typical linkage patterns within social systems, and on how to

manipulate those patterns effectively; and if Environment is the most crucial variable, he could go on to experiences that talk of how to cope with environments. In the area of Resources, again, the CLER model identifies six different types of resources: Cognitive/conceptual resources, Influence resources, Material resources, Personnel resources, Institutional resources, and Time resources. Research and experience about the management of resources can be organized in this review under these various headings so that the research user can go directly to the material that might be found helpful in solution invention.

#### The Outline for the Review

The outline below will be followed for organizing the research review:

- (1) 1.1 I: Focus on the Individual
  - 1.1.1 I-I
  - 1.2 G: Focus on the Group
    - 1.2.1 I-G
    - 1.2.2 G-G
    - 1.2.3 G-I
  - 1.3 IS: Focus on the Institution/Organization
    - 1.3.1 I-IS
    - 1.3.2 G-IS
    - 1.3.3 IS-IS
    - 1.3.4 IS-G
    - 1.3.5 IS-I
  - 1.4 CL: Focus on the Culture
    - 1.4.1 I-CL
    - 1.4.2 G-CL

1.4.3 IS-CL

1.4.4 CL-CL

1.4.5 CL-IS

1.4.6 CL-G

1.4.7 CL-I

- (2) Focus on Linkages
- (3) Focus on Environment
- (4) Focus on Resources
- (5) Measurement and Evaluation of Change

#### Comprehensive and Selective

Our objective here is to bring together in one place theory, research and technology of change in individuals, groups, institutions, and sub-cultures. Our area of search has to be all of social and behavioral sciences: anthropology, ethnography, sociology, communication, collective behavior, politics, public opinion processes, demography, economics, psychology and social psychology. We will also try to utilize, wherever possible, insights from the humanities and the arts, from poetry and theology. We will also cover some materials from the natural and the biological sciences so often neglected in such reviews. With the recent advances in bio-chemistry and genetic engineering and experimentation with drugs and hypnosis, it is important to reflect these interests in such a review. We do not want to leave the impression, however, that after reading this review readers will be able to work with these ideas and techniques; but that it is important for them to know of the directions in which some researchers and practitioners are going as they make interventions within individual psyches and social collectivities.

Another element of the planned comprehensiveness of this review will be to look also to the East. We will cover not only the typical research in

change done in the East that uses Western paradigms, but will also reflect the special philosophic orientations of the East and some of its technologies like Yoga and TM. An important feature of the review would thus be its international bias. We will not only pick up research done in all the different countries of the world but will also show and articulate its applications to international issues and change problems in other cultural contexts, and climes. That is, we will talk of problems of institution building, technology transfer, technical assistance methodology, and approaches to development.

Special attention will be paid to reflect in this research review the most significant discovery of the last ten years--the Female. Wherever possible we would make references to research or experiences of making change among women and women groups in various cultural situations and settings.

#### Focus on Education

Another important characteristic of the review--and this could be described as a selective principle--will be its focus on education. While social and behavioral sciences are available to us all and while we will quote and learn from the experiences of diffusionists and change makers in all sectors, regions, countries and continents, we will write for educators as our clients. That is not to say, however, that we will deal with the interests only of the teacher in the classroom. We will interpret education broadly to include formal and nonformal education and various programs of adult literacy, community development, agriculture and health extension, and institutional and technological transfer. We will address not only teachers, but also educational researchers, consultants, and activist administrators within educational institutions. Our interests will not be with substantive

issues of education, however. We will be interested only in the processes of educational change: diffusion of instructional innovations, emergence of new educator roles, renewal of school systems, design of innovative structures and organizations.

### Evaluation and Measurement

We will focus as heavily on diagnosis of change as we will on its measurement and evaluation. Current advances in evaluation theory will be discussed. Approaches to measurement, of special interest to change makers will be reviewed. We will refer to what is available and what might be done by change makers when left to their own devices.

### Responsiveness, Felt Needs, and Power

Our personal bias is for responsive change within education and within social systems but we do not wish to be naive about the use of power in social transactions and of the paramount role of the elite in the affairs of men. We hold that innovators are not merely dealing with the "felt needs" of communities and peoples. If they were, they would be distributors of services rather than innovators. Innovators deal often with "fashioned needs." New systems of ideas and ideologies generate new needs as reflections of new policy commitments. Once this happens, the elite go about fashioning new needs and selling these new needs to change them into felt needs. That is what change is all about. And yet in a sense this can mean responsive change; change that has relevance to the realities within which people live; change that offers good, just and humane existence to most people.

Finally, we will use the concept of power to explain the total dynamics

of change. We agree with Bertrand Russell<sup>1</sup> that power in social sciences should be as explanatory of social events as energy is in the physical sciences. We will indicate how systems, whether in stability or change, could be seen as power fields; and how change could be seen as an attempt to create new power fields that perform societal work. This would lead to an emphasis on the powerholder, the change maker, the elite, seldom considered in the literature of change. We will focus on the teacher, the leader, the missionary, the extension agent as we look at their clients, the student, the led, the congregation, and farming communities. We will also suggest how the change maker, the consultant, the advocate may learn to confront himself to clarify his own personal purposes, to dare to bare his own values.

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<sup>1</sup> Bertrand Russell, Power: A New Social Analysis. Beacon Press Paperback, 1938.